

Notice of Allowability

Application No.

10/622,797

Examiner

Susan W Berman

Applicant(s)

YAMAMOTO, SHOUJI

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to filing.
2. ☒ The allowed claim(s) is/are 8.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/793,108.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 7/03 & 11/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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EXAMINER'S AMENDMENT

The application has been amended as follows:

In the Specification, page 1, after the title, insert the following

--This application is a divisional of application serial number 09/793,108, filed February 27, 2001, now abandoned. --

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

The prior art cited herein and otherwise known to the examiner does not teach the instantly claimed method wherein an ultraviolet-curable pressure sensitive adhesive composition comprising a photoinitiator having the molar absorptivity and maximum absorption wavelength set forth in the instant claim is required. Applicant provides comparative data in the instant specification to show that significantly improved peeling adhesive strength and no adhesive residue were observed from the instantly claimed method using the instantly claimed photoinitiator compared with the same method using the prior art photoinitiators having lower molar absorptivity and different maximum absorption wavelength. See Tables 1 and 2 in the instant specification.

The closest prior art is considered to be EP 1 262 533 A1, published December 4, 2002, after the effective filing date of the instant application. EP '533 discloses a method for fixing a semiconductor wafer with a pressure sensitive adhesive composition comprising an acylphosphine oxide photoinitiator having the molar absorptivity and maximum absorption wavelength set forth in the instant claims. Photoinitiators such as the bis(2,4,6-trimethylbenzoyl)-phenyl phosphine oxide specifically disclosed by applicant as having the required properties are taught (pages 4-5). The PSA composition is easily peeled after irradiation (page 6, [0037]).

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Kondo et al (6,524,701) disclose a pressure sensitive adhesive sheet that can be stuck to an adherend surface such as a circuit surface having semi-conductor wafers thereon, to protect it during working and then stripped off. The compositions are ultraviolet compositions comprising a photoinitiator that can be an acylphosphine oxide. See column 4, lines 33-58, column 7, lines 7-13, column 8, line 50, to column 9, line 6. However, Kondo et al do not mention acylphosphine oxide photoinitiators having the molar absorptivity and maximum absorption wavelength set forth in the instant claims. Photoinitiators such as the 2-benzyl-2-dimethylamino-1-(4-morpholinophenyl)-butanone-1 or bis(2,4,6-trimethylbenzoyl)-phenyl phosphine oxide specifically disclosed by applicant as having the required properties are not mentioned by Kondo et al. Furthermore, Kondo et al do not provide any motivation to select an acylphosphine oxide photoinitiator from the photoinitiators disclosed and then to limit the acylphosphine oxide selected to one having the properties set forth in the instant claim. Acylphosphine oxides are not used in the Examples.

JP 10-130591 discloses compositions for colored acrylic pressure sensitive adhesives comprising an acylphosphine oxides photoinitiator having a maximum absorption from 400-450 nm. The acylphosphine oxide photoinitiator is selected to provide ultraviolet curing in the presence of carbon black. See [0019] and [0020] of the machine translation. JP '591 does not teach the instantly claimed method for processing a semiconductor wafer.

Wright et al (6,224,949) disclose photoinitiators having the molar absorptivity set forth in the instant claims and that the photoinitiators are useful for curing pressure sensitive adhesive compositions. However, Wright et al do not teach the instantly claimed method for processing a semiconductor wafer.

The following references are cited as art of interest. Kanai et al (US 2002/0019454 A1) disclose and claim pressure sensitive adhesive compositions. Nagamoto et al (US 2003/0008139 A1) is equivalent to EP '533 discussed above. Nagamoto et al (6,723,619, filed 05-17-2002) disclose a method for fixing a semiconductor wafer using a pressure sensitive adhesive sheet. Uemura et al (5,714,029), Masuda et al

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(6,524,700), Akada et al (5,476,565) and Kuroda et al (4,720,317) each teach a method for fixing a semiconductor wafer with a pressure sensitive adhesive comprising a photoinitiator and removing the wafer from the adhesive.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan W Berman
Primary Examiner
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